

REMARKS

I. Introduction

Applicants' and Applicants' representative would like to thank Examiner Cao for the indication of allowable subject matter recited by claims 2 and 6-8. In response to the Office Action dated February 24, 2005, Applicants have amended the Title of the Invention so as to further describe the present invention. Also, Applicants have amended claim 1 to further clarify the claimed subject matter, and claims 6 and 7 in a manner consistent with the Examiner's suggestion so to overcome the pending claim objections. New claims 12-14 are also added. Support for these amendments can be found, in Fig. 1 and its corresponding section of the specification. No new matter has been added.

It is noted that claims 8-11 are currently withdrawn. As the pending Office Action has indicated the allowance of independent claim 7, it is respectfully requested that claims 8-11 be **REINSTATED** and **ALLOWED** by virtue of their dependency on claim 7.

Furthermore, as it is believed that claim 1 will be allowed for reasons set forth below, it is respectfully requested that non-elected claims 3-5 also be **REJOINED**.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

II. The Rejection Of Claim 1 Under 35 U.S.C. § 102

Claim 1 is rejected under 35 U.S.C. § 102(e) as being anticipated by USP No. 6,448,618. Applicants respectfully request reconsideration of this rejection for at least the following reasons.

Claim 1, as amended, recites in-part that a stress applied from the trench isolation to a channel of the pMISFET of the second type is larger than a stress applied to a channel of the pMISFET of the first type.

As discussed at page 11, line 13 to page 12, line 17 of the specification, the instant Applicants have discovered that the stress produced by the trench isolation causes a lattice distortion in the channel of a transistor. While this lattice distortion decreases the effective mobility of the carriers in the channel of an nMISFET, the trench isolation stress applied to an pMISFET eliminates degeneration in the valence band, thereby creating light holes having light mass so as to increase the effective mobility of the carriers in the pMISFET. That is, by applying a trench isolation stress to the pMISFET of the second type that is greater than that applied to the pMISFET of the first type, the current driving capability of the pMISFET of the second type can be significantly improved as compared to that of the pMISFET of the first type. Accordingly, even when the pMISFET of the first type and the pMISFET of the second type have the same gate length and gate width, the current driving capability of the pMISFET of the second type can be advantageously enhanced as compared to that of the pMISFET of the first type.

Turning to Inaba, Inaba expressly discloses obtaining a large current drive by reducing the gate lengths and gate widths of the gate electrodes 21A and the dummy gate electrodes 21A' of the MOSFET 20A in the cell region 11a to $0.1\mu\text{m}$, while setting the gate length of the gate electrode 21B of the MOSFET 20B in the peripheral circuit region 11b at $0.1\mu\text{m}$ and the gate width thereof at $10\text{-}20\mu\text{m}$ (see, col. 7, lines 40-47). That is, the gate width of the gate electrode 21B is purposefully set larger than that of each of the gate electrodes 21A so that the current drive of the MOSFET 20B is greater than that of the MOSFET 20A. However, it is respectfully submitted that the foregoing characteristic of Inaba (i.e., larger current drive) is not attributed by utilizing a stress produced by the element isolation region 12. This is evidenced by the fact that the distance between the gate electrode 21B of the MOSFET 20B and the element isolation region 12 is visibly equivalent to that between the gate electrode 21A of the MOSFET 20A and

the element isolation region 12 (see, Fig. 1), so that the magnitude of stress applied to the channel of the MOSFET 20A and MOSFET 20B from the element isolation region 12 is also the same, and the objective of adjusting the MOSFET 20B to have a current drive larger than that of the MOSFET 20A would not result. For all of the foregoing reasons, it is respectfully submitted that Inaba is completely silent with regard to utilizing any stress established by the trench isolation, let alone disclose applying such stress to the channel of the alleged pMISFET of the second type 20B at an amount greater than a stress applied to the channel of the alleged pMISFET of the first type 20A.

Accordingly, as anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference, *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983), and at a minimum, Inaba fails to disclose or suggest the foregoing claim elements, it is clear that Inaba does not anticipate claim 1 or any of the claims dependent thereon.

III. All Dependent Claims Are Allowable Because The Independent Claims From Which They Depend Are Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as independent claim 1 is patentable for the reasons set forth above, it is respectfully submitted that new claim 2 dependent thereon is also in condition for allowance.

IV. Conclusion

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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